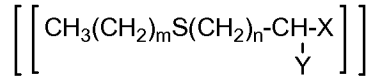
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for reducing mucositis in a human or animal patient exposed to radiation, the method comprising administering to said patient an effective amount of a protective agent comprising ~~a compound containing a~~ methionine ~~or a methionine-like moiety having the structural formula:~~



~~wherein m is an integer from 0 to 3; n is an integer from 1 to 3; X = -OR^1, -$OCOR^1$, -$COOR^1$, -CHO, -$CH(OR^1)_2$, or -CH_2OH; Y = -NR^2R^3 or -OH; R^1 = H or a substituted or unsubstituted, straight or branched chain alkyl group having 1 to 6 carbon atoms; R^2 = H or a substituted or unsubstituted, straight or branched chain acyl group having 1 to 6 carbon atoms; and R^3 = H or a substituted or unsubstituted, straight or branched chain acyl group having 1 to 6 carbon atoms~~; or

a pharmaceutically acceptable salt thereof.

2. (cancelled)

3. (currently amended) A method as set forth in claim 1, wherein the protective agent is selected from the group consisting of D-methionine, L-methionine, a mixture of D-methionine and L-methionine~~, normethionine, homomethionine, methioninol, hydroxy methionine, ethionine~~, a pharmaceutically acceptable salt thereof, and a combination thereof.

4. (original) A method as set forth in claim 3, wherein the protective agent is D-methionine.

5. (original) A method as set forth in claim 3, wherein the protective agent is L-methionine.

6. (original) A method as set forth in claim 3, wherein the protective agent is D,L-methionine.

7. (original) A method as set forth in claim 1, wherein the protective agent is administered prior to said radiation exposure.

8. (original) A method as set forth in claim 1, wherein the protective agent is administered simultaneously with said radiation exposure.

9. (original) A method as set forth in claim 1, wherein the protective agent is administered subsequently to said radiation exposure.

10. (original) A method as set forth in claim 1, wherein the effective amount of the protective agent is administered to said patient in a time period of from about 6 hours before to about 6 hours after the exposure to radiation.

11. (original) A method as set forth in claim 1, wherein the effective amount of the protective agent is administered to said patient in a time period of from about 1 hour before to about 1 hour after the exposure to radiation.

12. (original) A method as set forth in claim 1, wherein the effective amount of the protective agent is administered to said patient in a time period of from about one-half hour before to about one-half hour after the exposure to radiation.

13. (previously presented) A method as set forth in claim 1, wherein effective amount of the protective agent is administered to said patient orally, parenterally or topically, and the administration of said effective amount of protective agent results in a blood serum level

equivalent to that achieved by parenteral administration in the range of from about 1.0 mg/kg body weight to about 600 mg/kg body weight.

14. (original) A method as set forth in claim 13, wherein the administration of said effective amount of the protective agent results in a blood serum level equivalent to that achieved by parenteral administration in the range of from about 5 mg/kg body weight to about 500 mg/kg body weight.

15. (original) A method as set forth in claim 13, wherein the administration of said effective amount of the protective agent results in a blood serum level equivalent to that achieved by parenteral administration in the range of from about 10 mg/kg body weight to about 400 mg/kg body weight.

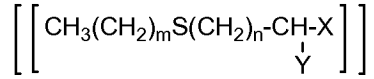
16. (original) A method as set forth in claim 1, further comprising administering to said patient a supplemental amount of the protective agent after the administration of said effective amount.

17. (original) A method as set forth in claim 16, wherein said supplemental amount of the protective agent is administered orally, parenterally, or topically to said patient.

18. (original) A method as set forth in claim 17, wherein the administration of said supplemental amount of the protective agent is sufficient to maintain a blood serum level of protective agent within said patient of at least about 10% of the blood serum level achieved by administration of the effective amount of the protective agent.

19. (original) A method as set forth in claim 18, wherein the administration of said supplemental amount of the protective agent is sufficient to maintain a blood serum level of protective agent within said patient of from about 20% to about 70% of the blood serum level achieved by administration of the effective amount of the protective agent.

20. (currently amended) A method for reducing mucositis in a human or animal patient undergoing treatment with a chemotherapeutic effective amount of an anti-tumor platinum-coordination compound, the method comprising administering to said patient an effective amount of a protective agent comprising ~~a compound containing a~~ methionine ~~or a methionine-like moiety having the structural formula:~~



~~wherein m is an integer from 0 to 3; n is an integer from 1 to 3; X = $-OR^1$, $-OCOR^1$, $-COOR^1$, -CHO, $-CH(OR^1)_2$, or $-CH_2OH$; Y = $-NR^2R^3$ or -OH; R^1 = H or a substituted or unsubstituted, straight or branched chain alkyl group having 1 to 6 carbon atoms; R^2 = H or a substituted or unsubstituted, straight or branched chain acyl group having 1 to 6 carbon atoms; and R^3 = H or a substituted or unsubstituted, straight or branched chain acyl group having 1 to 6 carbon atoms~~; or

a pharmaceutically acceptable salt thereof.

21. (cancelled)

22. (currently amended) A method as set forth in claim 20, wherein the protective agent is selected from the group consisting of D-methionine, L-methionine, a mixture of D-methionine and L-methionine, ~~normethionine, homomethionine, methioninol, hydroxy methionine, ethionine,~~ a pharmaceutically acceptable salt thereof, and a combination thereof.

23. (original) A method as set forth in claim 20, wherein the protective agent is administered prior to the administration of said chemotherapeutic effective amount of anti-tumor platinum-coordination compound.

24. (original) A method as set forth in claim 20, wherein the protective agent is administered simultaneously with the administration of said chemotherapeutic effective amount of anti-tumor platinum-coordination compound.

25. (original) A method as set forth in claim 20, wherein the protective agent is administered subsequently to the administration of said chemotherapeutic effective amount of anti-tumor platinum-coordination compound.

26. (original) A method as set forth in claim 20, wherein the protective agent is administered orally, parenterally or topically to said patient, and the administration of said effective amount of the protective agent results in a blood serum level equivalent to that achieved by parenteral administration in the range of from about 1.0 mg/kg body weight to about 600 mg/kg body weight.

27. (original) A method as set forth in claim 26, wherein the administration of said effective amount of the protective agent results in a blood serum level equivalent to that achieved by parenteral administration in the range of from about 5 mg/kg body weight to about 500 mg/kg body weight.

28. (original) A method as set forth in claim 26, wherein the administration of said effective amount of the protective agent results in a blood serum level equivalent to that achieved by parenteral administration in the range of from about 10 mg/kg body weight to about 400 mg/kg body weight.

29. (original) A method as set forth in claim 20, further comprising administering to said patient a supplemental amount of the protective agent after the administration of said effective amount.

30. (original) A method as set forth in claim 29, wherein said supplemental amount of the protective agent is administered orally, parenterally, or topically to said patient.

31. (original) A method as set forth in claim 30, wherein the administration of said supplemental amount of the protective agent is sufficient to maintain a blood serum level of

protective agent within said patient of at least about 10% of the blood serum level achieved by administration of the effective amount of the protective agent.

32. (original) A method as set forth in claim 30, wherein the administration of said supplemental amount of the protective agent is sufficient to maintain a blood serum level of protective agent within said patient of from about 20% to about 70% of the blood serum level achieved by administration of the effective amount of the protective agent.

33. (previously presented) A method for reducing mucositis in a human or animal patient exposed to radiation, the method comprising administering to said patient an effective amount of a protective agent comprising S-adenosyl-L-methionine.

34. (previously presented) A method for reducing mucositis in a human or animal patient undergoing treatment with a chemotherapeutic effective amount of an anti-tumor platinum-coordination compound, the method comprising administering to said patient an effective amount of a protective agent comprising S-adenosyl-L-methionine.

35. (new) The method of claim 1 wherein said mucositis is oral mucositis.

36. (new) The method of claim 1 wherein said mucositis is esophageal mucositis.

37. (new) The method of claim 1 wherein said mucositis is gastrointestinal mucositis.